

REMARKS

I. STATUS OF THE CLAIMS

Claims 1-3 and 5-56 are pending in this Application. Claim 4 was cancelled and the limitations recited therein were incorporated into independent claims 1 and 44. Applicants acknowledge that in response to the Examiner's election requirement, claims 9-12, 15-17, and 33-43 are unelected and withdrawn from consideration. Should the Examiner find the elected claims allowable, Applicants remind the Examiner of the obligation to rejoin the non-elected claims further to M.P.E.P. § 821.04.

Claims 1, 44 and 51 were amended. Claim 1 was amended only to further define the term "fiber strand," as set forth in the specification. Claim 44 was amended to further define the term "fiber strand" and the term "lamellar particles," as set forth in the specification. Claim 51 was amended to further define the term "lamellar, inorganic particles," as set forth in the specification. Accordingly, the amendments are supported by the claims and specification as originally filed, and therefore no new matter has been added.

II. SUMMARY OF EXAMINER INTERVIEW

Applicants contacted the Examiner on June 19, 2004, regarding the one month response time for the June 2, 2004, non-final Office Action. The Examiner agreed that the time limit for the response should be three months, instead of the one month that was originally indicated on the Office Action. See Interview Summary dated July 20, 2004.

III. RESPONSE TO RESTRICTION REQUIREMENT

In a restriction requirement presented with the Office Action dated June 2, 2004, the Examiner required election under 35 U.S.C. §121 among the following Groups:

- I. Group I, claims 9-11, drawn to an organic material;
- II. Group II, claim 12, drawn to an inorganic material;
- III. Group III, claims 13-14, drawn to lamellar particles;
- IV. Group IV, claims 15-17, drawn to composite materials;
- V. Group V, claims 33-43, drawn to a mixture of particles.

Applicants confirm their provisional election with traverse of Group III and the list of claims readable thereon.

Applicants respectfully request reconsideration of the Restriction and Election of Species Requirements for the following reasons. In order for a Restriction Requirement to be proper under 35 U.S.C. § 121, the Examiner must show why there would be a serious burden to examine the claims together. M.P.E.P. § 803 ("If the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent and distinct inventions." (emphasis added)) In the present case, such a burden does not exist, nor has the Examiner even alleged that it does. Specifically, all of the present independent claims recite an at least partially coated fiber strand comprising a plurality of fibers having a resin compatible coating composition on at least a portion of a surface of at least one of the fibers, the resin compatible coating composition comprising, *inter alia*, a plurality of discrete particles.

Accordingly, a search of Groups I, II, III, IV and V would involve a search of the same class. At the very least, the search and examination of Group III should substantially, if not completely, overlap the necessary search and examination for Groups I, II, IV and V.

Moreover, with respect to the election of species requirement, Applicants note that the election was made with the understanding that, if the elected species is found allowable, the Examiner will continue to examine the full scope of the pending claims to the extent necessary to determine the patentability of these pending claims, i.e., extending the search to a reasonable number of the non-elected species, as is the duty according to M.P.E.P. § 803.02 and 35 U.S.C. § 121.

Accordingly, Applicants respectfully request that the Restriction and Election of Species Requirements be withdrawn.

IV. SPECIFICATION OBJECTION

The Examiner objected to the abstract for the reasons discussed at page 3 of the Office Action. Applicants amended the abstract as requested by the Examiner. Applicants believe that the amendments to the abstract obviate the Examiner's objections since M.P.E.P. § 608.01(b) states that "[a]bstracts exceeding 25 lines of text should be checked to see if they exceed 150 words in length. . ." Since Applicants' abstract only occupies 11 lines and consists of 122 words, Applicants maintain that no further modification of the abstract's content is necessary. Accordingly, Applicants submit that the Amendment renders the objection moot and respectfully request that the objection be withdrawn.

IV. REJECTIONS UNDER 35 U.S.C. § 103(a)

A. Sakaguchi et al. in view of Raghupathi et al.

The Examiner rejected claims 1-11, 13, 18-32, and 51-36¹ under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,006,272 to *Sakaguchi* et al. (hereinafter, “*Sakaguchi*”) in view of U.S. Patent No. 6,139,958 to Raghupathi et al. (hereinafter, “*Raghupathi*”) for the reasons disclosed on pages 4-5 of the Office Action. Applicants traverse this rejection for at least the following reasons.

To establish a prima facie case of obviousness over a combination of references, the Examiner “bears the initial burden of factually supporting any prima facie conclusion of obviousness.” *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988). Specifically, the Examiner must prove such a desire to combine references with “substantial evidence” that is a result of a “thorough and searching” factual inquiry. *In re Lee*, 277 F.3d 1338, 1343-1344 (Fed. Cir. 2002). The Federal Circuit has on numerous occasions stated that to establish a prima facie case of obviousness an Examiner must show that the references, taken alone or in combination, (1) teach all the present claim limitations; (2) would have suggested to or provided motivation for one of ordinary skill in the art to make the claimed invention; and (3) would have provided one of ordinary skill with a reasonable expectation of success in so making. See *In re Vaeck*, 947 F.2d 488, 493 (Fed. Cir. 1991) (*citing In re Dow Chemical Co.*, 837 F.2d 469, 473 (Fed. Cir. 1988)).

¹ Although not specifically stated, Applicants assume that the Examiner intended this range to encompass claims 51-56. Clarification is requested.

“Both the suggestion and the reasonable expectation of success must be found in the prior art reference, not in the applicant’s disclosure.” *In re Vaeck* at 493.

In the present case, Applicants respectfully submit that the Examiner failed to establish a *prima facie* case of obviousness at least because the Examiner has not shown that *Sakaguchi* and *Raghupathi* either (1) teach all the present claim limitations; or (2) would have suggested to or provided motivation for one of ordinary skill in the art to make the claimed invention. See also M.P.E.P. §§ 2143.01, 2143.02, & 2143.03.

1. The cited prior art does not teach all the present claim limitations

First, Applicants respectfully submit that the rejection under § 103 is fatally flawed because the combination of *Sakaguchi* and *Raghupathi* fail to teach all of the limitations of claims 1-11, 13, 18-32, and 51-56. The present invention claims “a plurality of *discrete*” particles, as recited in claims 1 and 51. *Sakaguchi*, on the other hand, teaches a powder of unsaturated polyester resin scattered on glass fibers. The fibers are then placed in an oven such that the resin is *melted* and functions to bind the glass fibers to one another. See *Sakaguchi* at col. 1, lines 15-19. As a result of this melting, this binder does not read on the claim element “*discrete*” as defined in the disclosure of the present invention which requires “that the particles *do not tend to coalesce or combine to form continuous films* under conventional processing conditions, but instead substantially retain their individual distinctness, and generally *retain their individual shape or form*. Specification at page 12, lines 13-17 (emphasis added). Thus, the Examiner has not established that *Sakaguchi* teaches or suggests “a plurality of *discrete*” particles as recited in independent claims 1 and 51 of the present invention.

Raghupathi does not remedy the deficiencies of *Sakaguchi*. *Raghupathi* teaches chemically treated glass fibers that assist in reinforcing thermosetting polymer matrices. The only mention of particles in *Raghupathi* is in connection with a discussion of film-forming materials. *Raghupathi*, col. 4, line 64 to col. 5, line 20. Furthermore, the particles in *Raghupathi* consist of a precured microgel emulsion. *Id.* Therefore, as with *Sakaguchi*, specifically absent from the disclosure in *Raghupathi* is the existence of an at least partially coated fiber strand having a resin compatible composition comprising, *inter alia*, a plurality of discrete particles.

2. There is no suggestion or motivation for one in the art to make the claimed invention

Applicants submit that the Examiner cannot demonstrate a suggestion or motivation to modify the teachings of *Sakaguchi* and *Raghupathi* to make the claimed invention. Even if the references, when combined, taught all of the limitations (and they do not), there is no motivation to combine the teachings of the two references. The Examiner has a duty to make explicit factual findings as evidence of a motivation for making a claimed invention. See *In re Lee*, 277 F.3d 1338, 1343 (Fed. Cir. 2002). Indeed, these factual findings must be “clear and particular.” *In re Dembicza*k, 175 F.3d 994, 999 (Fed. Cir. 1999).

In the present case, with respect to claims 1-11, 13, 18-32, and 51-56, it is clear that *Sakaguchi* does not teach or even remotely suggest that there is any problem that needs correction or any advantage that could be obtained by modifying the disclosed glass fiber mats by incorporated the specific glass fibers recited in *Raghupathi*. In the absence of such a teaching, one skilled in the art would not have been motivated to

modify the teachings of *Sakaguchi* by incorporating aspects of *Raghupathi* in an attempt to arrive at the presently claimed invention. Furthermore, *Sakaguchi* does not suggest that there is any problem that needs correction or any advantage that could be obtained by modifying the disclosed resin-impregnated glass fiber mats by including a plurality of discrete particles. In the absence of such a teaching, one skilled in the art would not have been motivated to modify the teachings of *Sakaguchi* in an attempt to arrive at the presently claimed invention.

Moreover, the Examiner has not presented objective evidence to support the subjective, unsupported assertion of obviousness. In fact, without further explanation, the Examiner's only statement regarding motivation in the rejection pertains to the glass fibers of claims 6-8² and states:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the glass fibers of *Sakaguchi*, any glass fibers known in the art, such as those taught by *Raghupathi* and contemplated by applicants, with the reasonable expectation of success of obtaining a glass fiber mat having great transparency.

Office Action at page 5.

As described above, the Federal Circuit has rejected Examiners' attempts to use such general, non-specific and perfunctory statements to establish a case of *prima facie* obviousness. See *In re Lee*, 277 F.3d at 1338.

² Although not specifically stated, Applicants assume that the Examiner intended this range to encompass claims 5-8, all of which, in part, claim glass fibers. Clarification is requested.

Furthermore, simply because *Raghupathi* teaches glass fibers is not sufficient to show a motivation to choose *Raghupathi* to modify *Sakaguchi* considering the myriad of references in the glass fiber art. Applicants submit that the Examiner's proposed combination fails to take into account the disparate teachings of the references: *Sakaguchi* teaches a process for preparing resin-impregnated glass fiber mats, while the discrete particle-free chemical treating composition of *Raghupathi* is applied to glass fibers for the purposes of controlling wettability and weatherability.

Based on these teachings, there is nothing in either reference that would have led one of ordinary skill in the art to modify the teachings of *Sakaguchi* and *Raghupathi* to include an at least partially coated fiber strand comprising a plurality of fibers having a resin compatible coating composition on at least a portion of a surface of at least one of the fibers, the resin compatible coating composition comprising, *inter alia*, a plurality of discrete particles. Thus, there is no evidence to support any motivation for one skilled in the art to make the claimed invention. Accordingly, Applicants request that this ground of rejection for claims 1 and 51 be withdrawn. The rejection of the claims 2-11, 13 and 18-32 should be withdrawn for at least their dependency from claim 1 and the rejection of claims 52-56 should be withdrawn at least for their dependency on claim 51.

As a result, Applicants respectfully submit that the Examiner has failed to establish a prima facie case of obviousness pursuant to M.P.E.P. § 2143.02, and respectfully request that the Section 103 rejection of claims 1-11, 13, 18-32 and 51-56 be withdrawn.

B. Kotera et al. in view of Raghupathi et al.

The Examiner rejected claims 1-56 under 35 U.S.C. § 103(a) as unpatentable over U.S. Pat. No. 4,340,519 to Kotera et al. ("Kotera") in view of *Raghupathi* for reasons discussed at pages 5-7 of the Office Action. Applicants respectfully traverse this rejection at least because the Examiner has not shown that the combination of *Kotera* and *Raghupathi* either (1) teach all the present claim limitations; or (2) would have suggested to or provided motivation for one of ordinary skill in the art to make the claimed invention. See M.P.E.P. §§2143.01, 2143.02, & 2143.03.

1. The cited prior art does not teach all the present claim limitations

First, Applicants respectfully submit that the rejection under § 103 is fatally flawed because the combination of *Kotera* and *Raghupathi* fail to teach all of the limitations of claims 1-56. The disclosure in *Kotera* fails to teach, *inter alia*, "[a]n at least one partially coated fiber strand comprising a plurality of fibers . . . , wherein the at least one fiber strand comprises at least one glass fiber," as recited in claims 1 and 44, and "[a]n at least partially coated fiber strand comprising a plurality of glass fibers," as recited in claim 51. Conspicuously absent from the disclosure in *Kotera* is any mention of a fiber strand that comprises at least one glass fiber. Indeed, the Examiner acknowledges this fact by stating that "Kotera does not specifically teach glass fibers of the type

contemplated by applicants. . . ." Office Action at page 6. Although the Examiner broadly states, however, that Kotera teaches that "[t]he composition can be applied to glass products," this does nothing to rectify the absence of any mention of glass fibers in the reference.

Applicants assert that *Raghupathi* does not remedy the deficiencies of *Kotera*. As stated above, *Raghupathi* teaches chemically treated glass fibers that assist in reinforcing thermosetting polymer matrices. Specifically absent from the disclosure in *Raghupathi* is the existence of an at least partially coated fiber strand comprising a coating composition, the coating composition comprising, *inter alia*, a plurality of discrete particles. Indeed, the only mention of particles in *Raghupathi* is the disclosure of particles in a microgel emulsion, utilized as a component in a film forming material. The microgel emulsion is precured and, as a result, does not read on the "discrete" particle limitation found in the rejected claims.

Accordingly, both *Kotera* and *Raghupathi* fail to teach all the elements of claims 1, 44 and 51, as well as claims 2-32, and 45-50, and 52-56, which depend therefrom. Accordingly, Applicants submit that this rejection is improper under M.P.E.P. § 2143.03 and respectfully request that it be withdrawn.

2. There is no suggestion or motivation for one in the art to make the claimed invention

Applicants respectfully submit that the Examiner cannot demonstrate a suggestion or motivation to modify the teachings of *Kotera* and *Raghupathi* to make the claimed invention because there is no motivation to combine the teachings of the two references. In fact, both references expressly teach away from the combination. It is

well-settled that claims are not obvious if the cited reference or other relevant art teaches away from the claimed invention. M.P.E.P. § 2145(X)(D)(1). Indeed, the Federal Circuit has held a prior art reference must be considered in its entirety, and one may not “disregard disclosures in the references that diverge from and teach away from the invention at hand.” *W.L. Gore & Assocs., Inc., v. Garlock, Inc.*, 721 F.2d 1540, 1550 (Fed. Cir. 1983); see also *Bausch & Lomb, Inc., v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 448 (Fed. Cir. 1986). Thus, the Examiner must consider the entire disclosure of *Kotera* and *Raghupathi*, including those portions that are inconsistent with the Examiner’s asserted position. See *In re Kotzab*, 217 F.3d 1365, 1370 (Fed. Cir. 2000) (“a rejection cannot be predicated on the mere identification in [a prior art reference] of individual components of claimed limitations”).

Central to the invention disclosed in *Kotera* is a polyester resin that is utilized “for various utilities such as coating compositions, laminated products, aqueous printing ink, aqueous binder for coating, and surface treating agent for giving drip-proof.” *Kotera*, col. 2, lines 15-20. Indeed, *Kotera* expressly teaches that the resin gives “a coating film having excellent water resistance and excellent weatherability.” See, e.g., *id.*, col. 1, lines 7-8; col. 2, lines 11-12; col. 2, lines 14-15; col 7, lines 47-48. Such language indicates that the resin acts as an external coating for a finished object.

Moreover, the potential uses of the polyester resin disclosed in *Kotera* refer to products in which the coating would be on an external surface. See *id.*, col. 2, lines 15-20, and col. 7, lines 41-47 (describing potential uses of the polyester resin aqueous dispersion, “such as adhesives, inks, particularly aqueous printing ink, coating

composition, aqueous binder for coating, treating agent for textile or paper products, particularly surface treating agent for giving drip-proof, or the like. . . .").

All the Examples found in *Kotera* further support this fact. The Examples refer to coating the polyester resin onto the external surfaces of film, steel panels, and non-glass fabric. In some instances, two layers of the claimed resin coatings were applied; however, there is no evidence that any of the coatings were subsequently coated with additional compositions, such as matrix materials, chemically different from the resins claimed in *Kotera*.

Furthermore, *Kotera* does not suggest that there is any problem that needs correction or any advantage that could be obtained by modifying the disclosed aqueous polyester resin dispersion by utilizing glass fibers. Indeed, the mention of coating individual fibers is expressly absent from the disclosure of *Kotera*. In the absence of such a teaching, one skilled in the art would not have been motivated to modify the teachings of *Kotera* by incorporating aspects of *Raghupathi* in an attempt to arrive at the presently claimed invention.

An examination of the entire disclosure in *Raghupathi* leads one of skill in the art away from a combination with *Kotera*. *Raghupathi* discloses coated glass fibers that are used to reinforce products by dispersing the individual, chopped glass fiber strands "somewhat uniformly over the polymeric matrix." *Raghupathi*, col. 9, lines 17-19. The dispersed glass fibers then "settle and become wet-out in the polymeric matrix," *id.*, wherein "[w]et-out means that the matrix polymer encapsulates the glass fibers and very little, if any, bare glass is visible throughout the cured, fiber reinforced polymeric

material." *Id.*, col. 2, lines 57-60. Therefore, the coated fibers in *Raghupathi* are effectively embedded within the polymeric material in which they are incorporated, with little or no contact with any external surfaces. Such a teaching in *Raghupathi* clearly would lead one skilled in the art away from the combination of this reference with *Kotera*, where the claimed polyester resin is utilized on external surfaces.

Based on these teachings, there is nothing in either reference that would have led one of ordinary skill in the art to modify and combine the teachings of *Kotera* and *Raghupathi* to include an at least partially coated fiber strand comprising a plurality of fibers, the coating composition comprising, *inter alia*, a plurality of discrete particles. Thus, there is no evidence to support any motivation for one skilled in the art to make the claimed invention. Accordingly, Applicants assert that the present rejections should be withdrawn.

As a result, Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness pursuant to M.P.E.P. § 2143.02, and respectfully request that the Section 103 rejection of claims 1-56 be withdrawn.

III. CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

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Please grant any extensions of time required to enter this response and charge
any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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Dated: December 2, 2004

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REPLACEMENT ABSTRACT

The present invention provides an at least partially coated fiber strand comprising a plurality of fibers having a resin compatible coating composition on at least a portion of a surface of at least one of the fibers, the resin compatible coating composition comprising: a plurality of discrete particles formed from materials selected from non-heat expandable organic materials, inorganic polymeric materials, lamellar particles having a thermal conductivity of at least 1 Watt per meter K at a temperature of 300 K, non-heat expandable composite materials and mixtures of any of the foregoing, the particles having an average particle size sufficient to allow strand wet out; at least one lubricious material different from the plurality of discrete particles; and at least one film-forming material.